

### REMARKS

The present application was filed on December 23, 1999 with claims 1 through 59. Claims 39-46 were cancelled in the Response to Office Action dated May 29, 2003, in response to an election requirement. Claims 12, 17, 22, 28, 37, 49, 52, 55 and 58 have been previously cancelled. Claims 1-11, 13-16, 18-21, 23-27, 29-36, 38, 47-48, 50-51, 53-54, 56-57, and 59 are presently pending in the above-identified patent application. Claims 11, 16, 21, 36 and 39-46 are proposed to be cancelled herein. Independent claims 1, 13, 18, 24, 38, 47, 50, 53, 56, and 59 are proposed to be amended herein. In addition, claims 54 and 57 are proposed to be amended herein.

#### Supplemental Information Disclosure Statement

Applicants submitted a Supplemental Information Disclosure Statement on January 26, 2004 with references that were cited in a corresponding foreign application. Applicants submit that the Supplemental Information Disclosure Statement should be entered pursuant to 37 CFR 1.97(c) (on the basis that the Supplemental Information Disclosure Statement was mailed before the mailing of the final Office Action and contained only references that were cited in a corresponding foreign application within the prior three months). Applicants have not yet received an acknowledgement that the Supplemental Information Disclosure Statement has been entered, and respectfully request such an acknowledgement.

The references submitted in the Supplemental IDS include United States Patent No. 5,136,593 to Moon et al.; United States Patent No. 5,220,570 to Lou et al. and United States Patent No. 5,910,968 to Chouly et al.

#### Entry of Present Amendment After Final

This amendment is submitted pursuant to 37 CFR §1.116 and should be entered. The Amendment places all of the pending claims in a form that is believed allowable, and, in any event, in a better form for appeal. It is believed that examination of the pending claims as amended, which are consistent with the previous record herein, will not place any substantial burden on the Examiner. No new matter is introduced and Applicants submit that a new search would not be required.

Applicants submitted a Notice of Appeal on August 4, 2004 and are concurrently submitting a request to withdraw the Appeal in order to obtain entry of the present amendment. The present amendments are submitted based on a better understanding of the references identified in the Supplemental Information Disclosure Statement, as discussed further below. The present amendments also provide further bases for distinction over the previous cited references in the

present application. Applicants submit that the claims, as amended, are now in a form that allowable, and, in any event, in a better form for appeal.

#### Summary of Prior Rejections

In the final Office Action, the Examiner rejected claims 1, 3, 5-12, and 47-49 under 35 U.S.C. § 102(e) as being anticipated by Zhong et al. (United States Patent Number 5,970,104) and rejected claims 24, 31-37, and 56-58 under 35 U.S.C. §103(a) as being unpatentable over Zhong et al. The Examiner also indicated that claims 13-23, 38, 50-55, and 59 are allowed and indicated that claims 2, 4, and 25-30 would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

#### Allowability of Independent Claims

Each of the independent claims 1, 13, 18, 24, 38, 47, 50, 53, 56, and 59 have been amended to emphasize that the precomputed branch metrics are based on the received signal and are stored in at least one pipeline register; and that a precomputed branch metric is selected from the at least one pipeline register based on at least one survivor symbol from at least one corresponding state. This combination of elements is not shown by any of the cited references.

Among other benefits, the precomputation of the branch metrics in a look-ahead fashion allows pipelining, as required by each independent claim, and thus a shortening of the critical path. This is not shown by the prior art.

Thus, Zhong et al., Chouly et al., Moon et al. nor Lou et al., alone or in any combination, do not disclose or suggest precomputing branch metrics using the received signal for speculative sequences of one or more channel symbols; storing said precomputed branch metrics in at least one pipeline register; and selecting one of said precomputed branch metrics from the at least one pipeline register based on at least one survivor symbol from a corresponding state, as variously required by each independent claim.

#### Dependent Claims

Dependent claims 3, 5-10, 12, and 48-49 were rejected under 35 U.S.C. § 102(e) as being anticipated by Zhong et al. and claims 31-37, and 57-58 were rejected under 35 U.S.C. §103(a) as being unpatentable over Zhong et al.

Claims 2-10, 14-15, 19-20, 23, 25-27, 29-35, 48, 51, 54, and 57 are dependent on claims 1, 13, 18, 24, 47, 50, 53, and 56, respectively, and are therefore patentably distinguished over Zhong et al. (as well as Chouly et al., Moon et al. nor Lou et al.) because of their dependency from

independent claims 1, 13, 18, 24, 47, 50, 53, and 56 for the reasons set forth above, as well as other elements these claims add in combination to their base claim. The Examiner has already indicated that claims 14-15, 19-20, 23, 51, and 54 are allowed and indicated that claims 2, 4, 25-27, and 29-30 would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

Conclusion

All of the pending claims, i.e., claims 1-10, 13-15, 18-20, 23-27, 29-35, 38, 47-48, 50-51, 53-54, 56-57, and 59, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,



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